

Gigabit Ethernet Switch - Command Line Guide

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ABOUT THIS MANUAL

Purpose This manual gives specific information on how to configure and manage this switch

via terminal console and telnet utilities.

Audience This manual is intended for use by network administrators who are responsible for

operating and maintaining network equipment. Consequently, it assumes basic network knowledge of general switch functions, the Internet Protocol (IP), IEEE 802.3at/af Power over Ethernet Standard and Simple Network Management Protocol (SNMP).

Command Line Mode

The CLI groups all the commands in appropriate modes according to the nature of the command. A sample of the CLI command modes are described below. Each of the command modes supports specific software commands.

Mode-based Command Hierarchy

The Command Line Interface (CLI) groups all the commands in appropriate modes by the nature of the commands. Examples of the CLI command modes are described below. Each of the command modes supports specific switch's commands.

The CLI Command Modes table captures the command modes, the prompts visible in that mode and the exit method from that mode.

Command Mode	Access Method	Exit or Access Previous Mode
User Mode	This is the first level of access. Perform basic tasks and list system information.	Enter exit command
Privileged Mode	From the User Mode, enter the enable com- mand.	To exit to the User Mode, enter exit .
Global Config Mode	From the Privileged Mode, enter the con- figuration command.	To exit to the Privileged Mode, enter the exit command.

The CLI is divided into various modes. The commands in one mode are not available until the operator switches to that particular mode. The commands available to the operator at any point in time depend upon the mode. Entering a question mark (?) at the CLI prompt, and displayss a list of the available commands and descriptions of the commands.

The CLI provides the following modes:

User Mode

When the operator logs into the CLI, the User Mode is the initial mode. The User Mode contains a limited set of commands. The command prompt shown at this level is defined by the name assigned to the switch. For the puroposes of this Manual the command line prompt will be defined as:

Command Prompt: SWITCH_NAME>



Privileged Mode

To have access to the full suite of commands, the operator must enter the Privileged Mode. The Privileged Mode requires password authentication. From Privileged Mode, the operator can issue any Exec command to enter the Global Configuration mode. The command prompt shown at this level is defined by the name assigned to the switch. For the puroposes of this Manual the command line prompt will be defined as:

Command Prompt: SWITCH_NAME #

Global Config Mode

This mode permits the operator to make modifications to the running configuration. General setup commands are grouped in this mode. From the Global Configuration mode, the operator can enter the Interface Configuration mode. The command prompt shown at this level is defined by the name assigned to the switch. For the puroposes of this Manual the command line prompt will be defined as:

Command Prompt: SWITCH_NAME (Config)#

Command Frompt. SWITCH_NAME (Coming)#	
From the Global Config mode, the operator may enter the following configuration modes:	
User Mode Commands	
Enable Command	
Description:	
Turn on privileged mode command	
Syntax:	
enable	
Example:	
SWITCH_NAME> enable	
Password:	
SWITCH_NAME#	
Exit Command	

Description:

Exit current mode and down to previous mode

Syntax:

exit



SWITCH_NAME# exit SWITCH_NAME>

Ping command

Description:

Send ICMP ECHO_REQUEST to network hosts

Syntax:

ping HOSTNAME (Host name)

Example:

SWITCH_NAME> ping 192.168.0.100
PING 192.168.0.100 (192.168.0.100): 56 data bytes
64 bytes from 192.168.0.100: icmp_seq=0 ttl=64 time=0.0 ms
64 bytes from 192.168.0.100: icmp_seq=1 ttl=64 time=0.0 ms
64 bytes from 192.168.0.100: icmp_seq=2 ttl=64 time=0.0 ms
64 bytes from 192.168.0.100: icmp_seq=3 ttl=64 time=0.0 ms
--- 192.168.0.100 ping statistics --4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 0.0/0.0/0.0 ms

Show Command

SWITCH_NAME>

show arp

Description:

Show the IP ARP translation table

Syntax:

show arp

Example:

SWITCH_NAME> show arp

Address HWtype HWaddress Flags Mask Iface 192.168.0.100 ether C8:9C:DC:EC:D6:DD C eth0

SWITCH_NAME>

show history



Description:
List the last several history commands

show history

Example:

SWITCH_NAME> show history

show info

Description:

Show basic information

Syntax:

show info

Example:

SWITCH_NAME> show info

show ip

Description:

Show the IP Address, Subnet Mask, Default Gateway

Syntax:

show ip

Example:

SWITCH_NAME> show ip

IP Address: 192.168.0.100



Subnet Netmask: 255.255.255.0 Default Gateway: 192.168.0.254

SWITCH_NAME>

show privilege

Description:

Show the local user privilege level

Syntax:

show privilege

Example:

SWITCH_NAME> show privilege Current CLI Username: admin

Current CLI Privilege: 15

SWITCH_NAME>

show version

Description:

Show the system hardware and software status

Syntax:

show version

Example:

SWITCH_NAME> show version Loader Version : 2011.12.41872

Loader Date: May 22 2014 - 19:28:43

Firmware Version: v1.0b140611

Firmware Date: Wed Jun 11 10:13:28 CST 2014

Magic Number: 83800000

SWITCH_NAME>

Traceroute command

Description:

Trace route to network hosts

Syntax:

traceroute HOSTNAME (The IP address or hostname address to trace)



SWITCH_NAME> traceroute 192.168.0.100

Privileged Mode Commands

Clear command

clear arp

Description:

Clear entries in the ARP cache

Syntax:

clear arp A.B.C.D (IP address to clear) clear arp (the entire ARP cache is cleared)

Example:

SWITCH_NAME# clear arp 192.168.0.100 SWITCH_NAME# SWITCH_NAME# clear arp SWITCH_NAME#

clear gvrp

Description:

Clear the GVRP configuration

Syntax:

clear GVRP error-statistics (GVRP Error Statistics information) clear GVRP statistics (GVRP Statistics information)

Example:

SWITCH_NAME# clear gvrp error-statistics SWITCH_NAME# clear gvrp statistics SWITCH_NAME#

clear interfaces

Description:

Clear the Interface status and configuration

Syntax:

clear interface LAG <1-8> counters clear interfaces GigabitEthernet <1-26> counters



SWITCH_NAME# clear interfaces lag 1 counters SWITCH_NAME# clear interfaces GigabitEthernet 1 counters SWITCH_NAME#

clear ip arp

Description:

Clear the IP configuration

Syntax:

clear ip arp inspection interfaces LAG <1-8> statistics clear ip arp inspection interfaces GigabitEthernet <1-26> statistics

Example:

SWITCH_NAME# clear ip arp inspection interfaces lag 1 statistics
SWITCH_NAME# clear ip arp inspection interfaces GigabitEthernet 1 statistics
SWITCH_NAME#

clear ip dhcp

Description:

Clear the DHCP configuration

Syntax:

clear ip dhcp snooping database statistics clear ip dhcp snooping interfaces LAG <1-8> statistics clear ip dhcp snooping interfaces GigabitEthernet <1-26> statistics

Example:

SWITCH_NAME# clear ip dhcp snooping database statistics
SWITCH_NAME# clear ip dhcp snooping interfaces lag 1 statistics
SWITCH_NAME# clear ip dhcp snooping interface GigabitEthernet 1 statistics
SWITCH_NAME#

clear ip igmp

Description:

Clear the IGMP configuration

Syntax:

clear ip igmp snooping groups dynamic/static clear ip igmp snooping statistics clear ip dhcp snooping vlan x static-mac xx:xx:xx:xx:xx



SWITCH_NAME# clear ip igmp snooping groups dynamic
SWITCH_NAME# clear ip igmp snooping groups static
SWITCH_NAME# clear ip igmp snooping statistics
SWITCH_NAME# clear ip igmp snooping vlan 1 static-mac 00:30-4F:00:00:01
SWITCH_NAME#

clear ipv6

Description:

Clear the ipv6 information

Syntax:

clear ipv6 mld snooping groups dynamic/static clear ipv6 mld snooping statistics clear ipv6 mld snooping vlan x static-mac xx:xx:xx:xx:xx

Example:

SWITCH_NAME# clear ipv6 mld snooping groups dynamic SWITCH_NAME# clear ipv6 mld snooping groups static SWITCH_NAME# clear ipv6 mld snooping statistics SWITCH_NAME# clear ipv6 mld snooping vlan 1 static-mac 00:30:4F:00:00:01 SWITCH_NAME#

clear line

Description:

Clear identify a specific line for configuration

Syntax:

clear line ssh/telnet

Example:

SWITCH_NAME# clear line ssh SWITCH_NAME# clear line telnet SWITCH_NAME#

clear IIdp



Clear IIdp configuration

Syntax:

clear line lldp statistics

Example:

SWITCH_NAME# clear lldp statistics SWITCH_NAME#

clear logging

Description:

Clear log configuration

Syntax:

clear logging buffered/flash

Example:

SWITCH_NAME# clear logging buffered SWITCH_NAME# clear logging flash SWITCH_NAME#

clear mac

Description:

Clear MAC configuration

Syntax:

clear mac address-table dynamic interface lag x clear mac address-table dynamic interface GigabitEthernet x clear mac address-table dynamic vlan x

Example:

SWITCH_NAME# clear mac address-table dynamic interfaces lag 1
SWITCH_NAME# clear mac address-table dynamic interfaces GigabitEthernet 1
SWITCH_NAME# clear mac address-table dynamic vlan 1
SWITCH_NAME#

clear rmon

Description:

Clear RMON information



Syntax:

clear rmon interfaces lag x statistics clear rmon interfaces GigabitEthernet x statistics

Example:

SWITCH_NAME# clear rmon interfaces lag 1 statistics SWITCH_NAME# clear rmon interfaces GigabitEthernet 1 statistics SWITCH_NAME#

Clock command

Description:

Manage the system clock

Syntax:

clock set HH:MM:SS:Month: Date: Year

Example:

SWITCH_NAME# clock set 13:36:00 jul 3 2014 13:36:00 DFL(UTC+8) Jul 03 2022 SWITCH_NAME#

Configure command

Description:

Enter Global Config mode

Syntax:

configure

Example:

SWITCH_NAME# configure SWITCH_NAME(config)#

copy command

Description:

Copy from one file to another

Syntax:

copy backup-config/flash:///running-config/startup-config/tftp:// running-config/startup-config/tftp://

Example:



SWITCH_NAME# copy running-config startup-config Success
SWITCH_NAME#

Debug command

Description:

Debug Options

Syntax:

debug acl all/common/reserve/user-defined

Example:

SWITCH_NAME# debug acl all SWITCH_NAME# debug acl common SWITCH_NAME# debug acl reserve SWITCH_NAME# debug acl user-defined SWITCH_NAME#

delete command

Description:

Delete a file from the flash file system

Syntax:

delete backup-config/flash:///startup-config/system image x

Example:

SWITCH_NAME# delete backup-config SWITCH_NAME# delete flash:// SWITCH_NAME# delete startup-config SWITCH_NAME# delete system image 0 SWITCH_NAME#

disable command

Description:

Turn off privileged mode command

Syntax:

disable



SWITCH_NAME# disable SWITCH_NAME>

End command

Description:

End current mode and change to enable mode

Syntax:

end

Example:

SWITCH_NAME(config)# end SWITCH_NAME#

exit command

Description:

Exit current mode and down to previous mode

Syntax:

exit

Example:

SWITCH_NAME# exit SWITCH_NAME> 6.2.10 no command

Description:

Negate command

Syntax:

no debug acl all/common/reserve/user-defined

Example:

SWITCH_NAME# no debug acl all SWITCH_NAME# no debug acl common SWITCH_NAME# no debug acl reserve SWITCH_NAME# no debug acl user-defined SWITCH_NAME#

ping command



Send ICMP ECHO_REQUEST to network hosts

Syntax:

ping HOSTNAME (Host name)

Example:

SWITCH_NAME> ping 192.168.0.100
PING 192.168.0.100 (192.168.0.100): 56 data bytes
64 bytes from 192.168.0.100: icmp_seq=0 ttl=64 time=0.0 ms
64 bytes from 192.168.0.100: icmp_seq=1 ttl=64 time=0.0 ms
64 bytes from 192.168.0.100: icmp_seq=2 ttl=64 time=0.0 ms
64 bytes from 192.168.0.100: icmp_seq=3 ttl=64 time=0.0 ms
--- 192.168.0.100 ping statistics --4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 0.0/0.0/0.0 ms

reboot command

SWITCH_NAME>

Description:

Halt and perform a cold restart

Syntax:

reboot

Example:

SWITCH_NAME# reboot *Jul 03 14:22:09: %System-4: System reboot

renew command

Description:

RenewIP configuration

Syntax:

renew ip dhcp snooping database

Example:

SWITCH_NAME# renew ip dhcp snooping database SWITCH_NAME#



Restore to default

Syntax:

restore-defaults

Example:

SWITCH_NAME# restore-defaults

Restore Default Success. Do you want to reboot now? (y/n)y

Rebooting now...

*Jan 01 08:16:00: %System-4: System reboot

save command

Description:

Save running configuration to flash

Syntax:

save

Example:

SWITCH_NAME# save

Success

SWITCH_NAME#

show command

Description:

Show running system information

Syntax:

show specific item

Example:

SWITCH_NAME# show version

Loader Version: 2011.12.41872

Loader Date: May 22 2014 - 19:28:43

Firmware Version: v1.0b140611

Firmware Date: Wed Jun 11 10:13:28 CST 2014

Magic Number: 83800000

SWITCH_NAME#



Setup SSL host keys

Syntax:

ssl

Example:

SWITCH_NAME# ssl

Generating a 1024 bit RSA private key

.....+++++

writing new private key to '/mnt/ssh/ssl_key.pem'

You are about to be asked to enter information that will be incorporated

into your certificate request.

What you are about to enter is what is called a Distinguished Name or a DN.

There are quite a few fields but you can leave some blank

For some fields there will be a default value,

If you enter", the field will be left blank.

Country Name (2 letter code) [AU]:2

string is too short, it needs to be at least 2 bytes long

Country Name (2 letter code) [AU]:TW

State or Province Name (full name) [Some-State]:TW

Locality Name (eg, city) []:Taipei

Organization Name (eg, company) [Internet Widgits Pty Ltd]:PLANET

Organizational Unit Name (eg, section) []:SWITCH_NAME

Common Name (e.g. server FQDN or YOUR name) []:Marc

Email Address []:marcl@planet.com.tw

SWITCH_NAME#

traceroute command

Description:

Trace route to network hosts

Syntax:

traceroute HOSTNAME (The IP address or hostname address to trace)

Example:

SWITCH_NAME> traceroute 192.168.0.100

udld command

Description:



Configure global UDLD setting Syntax: udld reset Example:

SWITCH_NAME# udld reset
SWITCH_NAME# *Jan 01 08:16:26: %UDLD-5: No ports are disabled by UDLD

Global Config Mode Commands

aaa Command

Description:

AAA (Authentication, Authorization, Accounting)

Syntax:

aaa accounting commands/exec/system/update aaa authentication enable/login

boot Command

Description:

Booting Operations

Syntax:

boot host auto-config boot system image0/1

bridge Command

Description:

Global bridge table configuration

Syntax:

bridge multicast reserved-address xx:xx:xx:xx:xx bridge/discard/peer

class-map Command

Description:

Create class map and enter class map configuration mode. Use no form in order to delete the class

Syntax:

class-map WORD<0-32> (specified the name of the class map).





Manage the system clock

Syntax:

clock source local/sntp clock summer-time clock timezone

dos Command

Description:

DoS information

Syntax:

dos

daeqsa-deny Destination MAC equals to source MAC

icmp-frag-pkts-deny Fragmented ICMP packets

icmp-ping-max-length DoS information

icmpv4-ping-max-check Check ICMPv4 ping maximum packets size

icmpv6-ping-max-check Check ICMPv6 ping maximum packets size

ipv6-min-frag-size-check Check minimum size of IPv6 fragments

ipv6-min-frag-size-length DoS information

land-deny Source IP equals to destination IP

nullscan-deny NULL Scan Attacks

pod-deny Ping of Death Attacks

smurf-deny Smurf Attacks

smurf-netmask DoS information

syn-sportl1024-deny SYN packets with sport less than 1024

synfin-deny SYN and FIN bits set in the packet

synrst-deny SYNC and RST bits set in the packet

tcp-frag-off-min-check TCP fragment packet with offset equals to one

tcpblat-deny Source TCP port equals to destination TCP port

tcphdr-min-check Check minimum TCP header

tcphdr-min-length DoS information

udpblat-deny Source UDP port equals to destination UDP port

xma-deny Xmascan: sequence number is zero and the FIN, URG and PSH bits are set

6.3.7 dot1x Command

Description:

802.1x configuration





do Command	
Description:	
To run exec commands in current mode	
Syntax:	
do SEQUENCE (Exec Command)	
enable Command	
Description:	
Local Enable Password	
Syntax:	
enable password/privilege/secret	
end Command	
Description:	
End current mode and change to enable mode	
Syntax:	
end	
errdisable Command	
Description:	
Error Disable	
Syntax:	
errdisable recovery cause/interval	
exit Commmand	
Description:	
Exit current mode and down to previous mode	
Syntax:	Chattach
Exit	StarTechsom

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gvrp Command

Description:

GVRP configuration

Syntax:

gvrp time join/leave/leaveall

hostname Command

Description:

Set system's network name

Syntax:

hostname WORD (this system's network name)

interface Command

Description:

Select an interface to configure

Syntax:

Interface GigabitEthernet/LAG/range

ip Command

Description:

IP configuration

Syntax:

lр

acl This command creates an ACL, which perform classification on layer 3 fields and enters ip-access configuration mode.

address IPv4 Address

arp ARP configuration

dhcp DHCP configuration
dns Domin Name Server

http HTTP server configuration
https HTTPS server configuration



igmp IGMP Configuration

source IP Source Guard Configuration ssh SSH (Secure Shell) configuration telnet Telnet daemon configuration

ipv6 Command

Description:

IPV6 configuration

Syntax:

іру6

acl This command creates an ACL, which perform classification onlayer 3 fields and enters to ipv6-access configuration mode.

address Set IPv6 address and prefix autoconfig Enable Ipv6 auto-configuration

default-gateway

dhcp

Set IPv6 gateway

Set IPv6 DHCP Client

mld

MLD Configuration

jumbo-frame Command

Description:

Jumbo Frame configuration

Syntax:

jumbo-frame <64-9216> (Maximum frame size)

Command

Description:

L2 information

Syntax:

12 igmp snooping unknown-multicast action drop/flood

lacp Command

Description:

LACP Configuration

Syntax:

lacp system-priority <1-65535> (LACP system priority)

lag Command



Link Aggregation Group Configuration

Syntax:

lag load-balance src-dst-mac/src-dst-mac-ip

line Command

Description:

To identify a specific line for configuration

Syntax:

line console/ssh/telnet

Ildp Command

Description:

LLDP Configuration

Syntax:

lldp

holdtime-multiplier Configure LLDP holdtime multiplier Ildpdu Configure LLDP PDU handling when LLDP is disabled med LLDP MED configuration reinit-delay Configure LLDP reinitialization delay tx-delay Configure LLDP TX delay tx-interval Configure LLDP transmission interval

logging Command

Description:

Log Configuration

Syntax:

logging

buffered RAM

flash Flash

host Remote syslog host

mac Command

Description:

MAC Configuration



Syntax	
---------------	--

mac

acl This command enters the extended MAC ACL configuration in order to create layer 2 extended ACL address-table MAC address table configuration

management-vlan Command

Description:

Management VLAN configuration

Syntax:

management-vlan vlan <1-4094> VLAN ID (e.g. 100)

mirror Command

Description:

Mirror configuration

Syntax:

mirror session <1-4> Session ID (e.g. 1-4)configuration destination/source interface/GigabitEthernet <1-26> GigabitEthernet

device number

no Command

Description:

Negate command

Syntax:

no

policy-map Command

Description:

This command create policy map and enter policy map configuration mode. Use no form to delete the policy map

Syntax:

policy-map WORD<0-32> (Enter the policy-map name)



port-security Command

Description:

Port security Configuration

Syntax:

port-security

qos Command

Description:

Enable/Disable QoS on the device and enter the QoS mode (advance/basic)

Syntax:

qos

advanced Enable/Disable QoS on the device and enter the QoS mode (advance/basic).

Set the trust mode when the default action is ports-trusted in advanced mode.

aggregate-policer Configure a policer that can be applied to multiple classes within the same policy map.

Use the no form of the command to remove policer.

basic Set system QoS advance mode.

map Configure the QoS maps. queue Queue configuration

trust Configure the global trust mode . Use the no form to return untrusted state.

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radius Command

Description:

RADIUS server information

Syntax:

radius default-config/host

rate-limit Command

Description:

Rate limit configuration of the specified incoming traffic





rmon Command

Description:

RMON information

Syntax:

rmon alarm/event/history

Snmp Command

Description:

SNMP information

Syntax:

snmp

community Set community or security name string

engineid SNMP engine id setting group Set access group string host Trap or inform host

trap Snmp class trap setting

user Set user Settings view Set view string

sntp Command

Description:

Simple Network Time Protocol

Syntax:

sntp host

spanning-tree Command

Description:

Spanning-tree configuration



Syntax:

Spanning-tree

bpdu action for bpdu packet

forward-delay Sets the forward-delay parameter
hello-time Sets the hello-time parameter
max-hops Sets the max-hops parameter

maximum-age Changes the interval between messages the spanning tree receive s from the root

switch

mode Spanning tree protocol type

mst Multiple spanning tree configuration pathcost Spanning tree path-cost method

priority Sets the priority for specified instance

tx-hold-count Set spanning-tree tx hold count, in seconds

storm-control Command

Description:

Storm control configuration

Syntax:

Storm-control

ifg Interframe configuration

unit Unit configuration

system Command

Description:

System information

Syntax:

contact Set host contact location Set host location name Set host name

tacacs Command

Description:

TACACS+ server information





tacacs

default-config TACACS+ server default parameters

host TACACS+ server host

udld Command

Description:

Configure global UDLD setting

Syntax:

udld

aggressive Enable UDLD protocol in aggressive mode on fiber ports except wher e locally config

ured

enable Enable UDLD protocol on fiber ports except where locally configured

message Set UDLD message parameters

username Command

Description:

Local User Configuration

Syntax:

username
USERNAME Local user name
nopassword
No password for this user
password
Use clear text password
privilege
Local user privilege level
secret
Use encrypted password

vlan Command

Description:

VLAN Configuration

Syntax:

vlan

VLAN-LIST VLAN List (e.g. 3,6-8): The range of VLAN ID is 1 to 4094

protocol-vlan 802.1v protocol VLAN configuration

voice-vlan Command

Description:

Voice VLAN Configuration

Syntax:

voice vlan <1-4094> (Specifies the Voice VLAN Identifier)







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